

Claims

- [c1] A system for controlling a set of material carriers under control of a master controller comprising:
a set of at least two material carriers having a spread spectrum RF transceiver;
at least one master controller unit having a spread spectrum RF transceiver; in which communication between said controller and said set of carriers passes through a link comprising an extended conductor connected to said controller and an antenna connected to each carrier;
and
each carrier contains a carrier processor for processing data received by said RF transceiver.
- [c2] A system according to claim 1, in which said extended conductor comprises a coaxial cable having RF leakage along its length sufficient to transmit to said antenna.
- [c3] A system according to claim 1, in which said extended conductor comprises a twin-lead conductor.
- [c4] A system according to claim 1, in which each carrier receives a location signal from nearby carriers indicating the position of said nearby carriers and broadcasts loca-

tion information indicating its own location.

- [c5] A system according to claim 4, in which at least one carrier processes said location signal from nearby carriers indicating the position of said nearby carriers to calculate therefrom whether said at least one carrier will collide with one of said nearby carriers.
- [c6] A system according to claim 4, in which said controller receives said location signal from said nearby carriers indicating the position thereof and calculates therefrom whether any of said nearby carriers will collide with another one of said nearby carriers.
- [c7] A system according to claim 1, in which said master controller communicates with a set of zone controllers, each of which controls a set of carriers within a corresponding zone of said system.
- [c8] A system according to claim 7, in which said master controller communicates with said set of zone controllers, through separate channels in said RF spread spectrum.
- [c9] A system according to claim 7, in which said master controller communicates with said set of zone controllers, through separate addresses for each zone controller.
- [c10] A system according to claim 7, in which said zone con-

troller communicates with said set of carriers through separate channels in said RF spread spectrum.

[c11] A system according to claim 7, in which said zone controller communicates with said set of carriers through separate addresses for each carrier.

[c12] A system according to claim 1, in which said RF transceivers operate in a frequency band that is also used by a telecommunications system.

[c13] A system according to claim 1, in which said zone further comprises at least one antenna connected to a zone controller, whereby said at least one zone has an air interface link in addition to said link comprising an extended conductor.

[c14] A system according to claim 13, in which each carrier receives a location signal from nearby carriers indicating the position of said nearby carriers and broadcasts location information indicating its own location.

[c15] A system according to claim 14, in which at least one carrier processes said location signal from nearby carriers indicating the position of said nearby carriers to calculate therefrom whether said at least one carrier will collide with one of said nearby carriers.

- [c16] A system according to claim 14, in which said zone controller receives said location signal from said nearby carriers indicating the position thereof and calculates therefrom whether any of said nearby carriers will collide with another one of said nearby carriers.
- [c17] A system according to claim 1, in which said extended conductor in at least one zone further comprises at least one attenuator adapted to reduce signal power transmitted from said extended conductor in an area of said at least one zone.
- [c18] A method of exchanging data between a set of material carriers under control of a master controller and said master controller comprising:
providing a set of at least two material carriers having a spread spectrum RF transceiver;
providing said master controller unit having a spread spectrum RF transceiver; communicating between said controller and said set of carriers passes through a link comprising an extended conductor connected to said controller and an antenna connected to each carrier; and processing, in each carrier, data received by said RF transceiver.
- [c19] A method according to claim 18, in which each carrier receives a location signal from nearby carriers indicating

the position of said nearby carriers and broadcasts location information indicating its own location.

[c20] A method according to claim 19, in which at least one carrier processes said location signal from nearby carriers indicating the position of said nearby carriers to calculate therefrom whether said at least one carrier will collide with one of said nearby carriers.